

And, lastly, in some *Orobanchæ* (*Lathræa*; not in *Orobanchæ* and *Phelipæa*).

The following families, also belonging to the Corollifloræ, appear to be destitute of placentoids:—the *Gesneriaceæ*, *Polemoniaceæ*, *Apocynææ*, *Convolvulaceæ*, *Primulaceæ*, *Plumbagineæ*, and *Plantagineæ*.

It is remarkable that among the Corollifloræ the orders with labiate flowers are most frequently provided with placentoids.

The presence of placentoids appearing to be in relation with organographic characters, it will be easily understood that it may be made use of as a complementary character in the investigation of natural affinities.

5. *Philosophy of the placentoids*.—Under this head we might consider the placentoids from several points of view, recurring to their biological part, &c.; but I circumscribe the question to this single point, the appreciation of the existence of placentoids with regard to the measurement of the organic gradation of vegetable species. It may be said, by reference to the facts acquired by science, that to put the question is to solve it.

In fact it is admitted (and the evidence is superabundant) that the Monocotyledons are less elevated in organization than the Dicotyledons. Now the Monocotyledons have no placentoids.

With regard to the Dicotyledons, the question of gradation among their classes, long under discussion, seems to have at last arrived at this solution:—The gamopetalous plants are of a higher order than the dialypetalous species; and among the former the families with the ovary united to the calyx must occupy a place below those with the ovary free—that is to say, below the Corollifloræ. Now we have proved the general existence of placentoids in the Corollifloræ. Hence these organs are an attribute of the plants which are most elevated in organization.—*Comptes Rendus*, January 29, 1866, pp. 215–218.

On the Method of Flight of the Flyingfish.

By HORACE MANN. [In a letter to F. W. Putman.]

I have been watching the flyingfish to-day. They are very abundant; and though you may know all about them from persons more competent to see and describe than I, yet I venture to send you a few notes on them in my journal. I had supposed that they must acquire some considerable momentum below the surface before rising above it, and for that reason wished to see if the motion of the fish immediately after leaving the water was more accelerated than during the later portions of its flight (for it is obviously a true flight). I think that I have been able to discover some slight differences in the rates of motion immediately after leaving the water and later in their course; but I also think their motion is kept up by the fins, and also that the weight is sustained by them. They do not appear to leave the water at a large angle, but otherwise—as near as I have been able to judge, about 5° or 6°. They plainly have the power of altering

their course of flight, so far as rising and falling, as I have seen them go over the rising surface of a not very high wave, and their flight is also almost always slightly dipping. I have also thought they sometimes altered their course to the right or left without touching the surface of the water; but it may have been owing to the wind. They will often barely touch the surface of the water, and rise again, keeping on in the same or an altered course. There went a shoal of a dozen or twenty this very minute, rising and falling slightly, and entering the water and issuing from it again and again, and altering their course, for the distance of seventy-five to one hundred yards. The motion of the fin is *not always* steady, as I have seen when they rose near the ship and the sun struck favourably upon them; for in those cases the motion was intermittent in velocity, though kept up all the time, and might be represented by a line more or less shaded. I have observed them fly thirty or forty yards without touching the water, though I should say usually they would not go more than half that distance. They do not usually rise much over a foot above the surface of the water, often much less, though one was said to have come on board the other day, and to do that, I should think, must have risen at least eight or ten feet.—*Proc. Boston Soc. N. H.* x. p. 21.

On some Marsupial Fishes. By L. AGASSIZ.

Professor Agassiz states that at Tefé he discovered several species of the family Chromidæ which carry their eggs at the bottom of the mouth in a marsupial pouch formed by the superior pharyngeal bones and the anterior cavity of the first branchial arch. This apparatus is furnished with numerous nervous filaments, which spring from a special inflation of the medulla elongata immediately behind the cerebellum. This inflation resembles the electrical lobe of the *Malapteruri*. Other species carry their eggs in the folds of their lips, such as the *Loricariæ*; others, such as the *Hypostomi*, hatch theirs like birds. . . . The changes of form undergone by the young fish are very instructive as regards classification. A Scomberesocid of a new genus has jaws resembling those of *Belone*; but when young, the upper jaw is so short that it might be taken for a *Hemiramphus*.—*Ann. Sci. Nat.* 1866, tome v. p. 228.

On the Occurrence of an Internal Convoluted Plate within the Body of certain Species of Crinoidea. By JAMES HALL.

During the investigations upon the *Crinoidea* of the Carboniferous Limestones of Iowa, there were discovered in the broken bodies of several species a vertical convoluted plate, filling a large part of the cavity of the body. At that time I showed several of these specimens to Prof. Agassiz, who informed me that he had observed a similar convoluted plate in the body of *Comatula*.

This convoluted intestinal plate was first observed in the body of *Actinocrinus pentagonus*, and afterwards in *A. longirostris*, *A. erodus*, *A. Verneuli*, and in a species of the type of *A. un-*